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Federal Water Quality Coalition

November 2, 2006

EPA Water Docket (MC4101T)
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Attention: Docket ID No. EPA-HQ-OW-2006-0656

RE: Comments on Draft Mercury Implementation Guidance

Dear Sir or Madam:

The Federal Water Quality Coalition (the Coalition) is submitting these comments on the Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion ("the Draft Guidance"), issued by the U.S. EPA ("EPA" or "the Agency") on August 9, 2006 (71 Fed. Reg. 45560).

The Coalition is a group of industrial companies, municipal entities, agricultural parties, and trade associations that are directly affected, or which have members that are directly affected, by regulatory decisions made under the Federal Clean Water Act (the "CWA" or the "Act"). The Coalition's members, for purposes of these comments, are as follows: Alcoa, Inc., Alliance of Automobile Manufacturers, American Chemistry Council, American Coke and Coal Chemicals Institute, American Forest & Paper Association, American Iron and Steel Institute, American Petroleum Institute, Asarco Incorporated, Chlorine Institute, City of Fort Wayne (IN), City of Lafayette (IN), City of Superior (WI), Coeur D'Alene Mines Corporation, Edison Electric Institute, General Electric Company, Hecla Mining Company, Indiana Coal Council, Mid America CropLife Association, National Association of Home Builders, Phelps Dodge Corporation, Pharmaceutical Research and Manufacturers of America, Rubber Manufacturers Association, Synthetic Organic Chemical Manufacturers Association, Utility Water Act Group, Western Coalition of Arid States, and Western States Petroleum Association.

Coalition member entities or their members own and operate facilities located on or near waters of the United States. These facilities operate pursuant to individual and/or general NPDES permits for discharges into those waters. Many of the facilities will be subject to permit requirements issued by their State agencies or EPA, based on the requirements and recommendations set forth in the Guidance when it is issued in final form. The Coalition therefore has a direct interest in the matters addressed in the Draft Guidance, which is why we are filing these comments.

The Coalition appreciates the opportunity to submit these comments, and also appreciates the work that EPA has done on this Draft Guidance. We have had several discussions with the Agency over the last several years regarding mercury issues, including those addressed in the Draft Guidance, and we have welcomed the opportunity to provide input as EPA has developed its policies in this area. As a general matter, we believe that it is highly important for EPA to issue guidance on how mercury should be regulated under the CWA. States need to make regulatory and permitting decisions, and clear, consistent guidance from EPA should be very helpful in accomplishing those tasks. As for the substance of the Draft Guidance, we support many of the key elements in the Draft Guidance, including particularly the emphasis on the direct use of fish tissue criteria and

fish tissue data in making TMDL and permitting decisions, and the focus on implementation of pollutant minimization programs rather than numeric limits for point sources. There are other aspects of the Draft Guidance that we believe should be improved and/or clarified. Our thoughts and suggestions are provided in detail below.

A. GENERAL ISSUES

1. We Support the Direct Use of Fish Tissue Criteria in TMDLs and Permitting. The BAF Approach Should Not Be Used..

EPA provides several methods that States can use to implement the recommended fish tissue criterion. Draft Guidance at pp. 14-15. States can use bioaccumulation factors (BAFs) to translate fish tissue levels into water column concentrations, and then use existing regulatory tools to derive TMDLs and permit requirements based on those water column levels. However, EPA notes a number of concerns regarding use of that method (Draft Guidance at pp. 12, 19, 22), and points out that States can also use the fish tissue criterion directly to develop TMDLs and permit requirements, without needing to translate fish tissue levels into water column levels. That approach integrates the site-specific effects of mercury speciation, transformation and bioaccumulation. We support the "direct use of fish tissue" approach, particularly relative to the alternative of using BAFs, which are extremely problematic. In fact, we believe that the Draft Guidance should more strongly promote the use of the "direct" approach and discourage use of BAFs. Our concerns regarding use of BAFs are set forth in more detail in Section A.4. below.

2. EPA Should Increase the Emphasis on Methylmercury rather than Total Mercury.

EPA has, appropriately, recognized in the Draft Guidance that the form of mercury that poses bioaccumulation risk, and that therefore should be the focus of regulatory efforts, is methylmercury. Draft Guidance at p. 3. However, we remain concerned that the Agency has not sufficiently emphasized collection and use of information on methylmercury levels, rather than total mercury levels, whenever possible. For example, the analysis of effluents is focused on total mercury (Draft Guidance at pp. 87-88, 94-96). While we understand the analytical and fate/transport challenges as to methylmercury that lead to that approach, we believe that it is very important to keep in mind that levels of total mercury in effluents do not necessarily have a strong relationship to the levels of methylmercury in fish in the waters that receive those discharges. That caution needs to be factored in when the agencies are deciding on the proper standards and the proper mix of controls to attain the standards. Similarly, it may be easier to express TMDLs in total mercury, rather than methyl, given the data collection challenges for the methylated form, but that can lead to focus on the wrong sources, and on wasteload reductions being mandated that do not actually result in the needed reductions in methyl levels in fish. EPA should recommend to the States that whenever possible, they should focus their evaluation of water quality, source contributions, and other TMDL inputs on methylmercury rather than the total form.[1]

3. EPA Should Recognize in the Guidance that the Relation between Total Mercury in Effluent and Methylmercury in Fish Needs to be Studied Further.

Implicit in the draft guidance is the recognition that some approaches to implementing the water quality criterion for methylmercury would necessitate the development of a relationship between methylmercury in the water column and methylmercury in fish (i.e., the BAF), and the

[1] EPA has not yet promulgated an approved analytical method for the measurement of methylmercury in water. There are two published methods: U.S. EPA Method 1630 and USGS Method OFR 01-445. EPA should move forward with the studies that are needed in order for Method 1630 to be considered for approval under 40 CFR 136.

relationship between total mercury in the water column (and in wastewaters and stormwaters) and methylmercury in the water column (i.e., total mercury to methylmercury translator). While the guidance offers some suggestions for developing these relationships, it does not speak to the real potential that in some, and perhaps many, circumstances current scientific knowledge is insufficient to allow the development of such relationships to the degree needed to support defensible, economically responsible strategies for reducing methlymercury concentrations in fish tissue. The guidance should recognize deficiencies in the current science and potential need for additional time for study by states prior to implementing control strategies for methylmercury.

Sections 3.1.3.1 and 3.1.3.2 of the draft guidance (pp. 16-26 and 26-39 respectively) provide discussions concerning the translation of methylmercury concentrations in fish tissue to methylmercury concentrations in the water column and further to concentrations of total mercury in the water column. From these discussions, it is clear that EPA recognizes the complexity of factors affecting the fate of mercury in the environment. In fact, the observation that these factors are site-specific is one reason EPA cited in its rationale for issuing a water quality criterion for methylmercury as a tissue concentration[2]. However, in situations where States wish to reduce the level of methylmercury in fish tissue, a sufficient understanding of site-specific factors and processes concerning total and methylmercury will be required to support responsible decisions for managing the water body.

While the guidance offers a variety of suggestions regarding approaches States might consider for relating total and methylmercury, the guidance fails to recognize that the current state of the science will, in some cases, lack the power to identify supportable relationships between total mercury in the water column or in wastewater or stormwater discharges and methylmercury in fish tissue. A complete review of the relevant literature is outside the scope of these comments, but recent work suggests that the methylation of mercury is a very complex process that is only poorly understood at present. Methylation is generally thought to be mediated by sulfur reducing bacteria, so factors unrelated to the amount of total mercury present in a system may have a profound effect on the observed relationship between mercury in sediments or water and that found in fish. As an example, it has been observed that the proportion of total mercury (Hg_T) in the water column present as methyl mercury (MeHg) can be lower in contaminated waters than in pristine waters, and some researchers have even claimed an inverse relationship between Hg_T and MeHg (Schaefer et al. 2004[3]). In this specific case, microbial processes were cited as the causal factor for this counterintuitive observation. Other researchers have reported on the significance of organic matter as a factor impacting methylation and, in a study of mercury in the Moose Jaw River, Jackson (1986[4]) concluded that methylmercury levels were not controlled by total mercury concentrations, but were dependent on the abundance of organic matter and planktonic algae. This is consistent with the work of Hammerschmidt and Fitzgerald (2004[5]), which suggested that Hg(II) can partition to organic material, making it unavailable to methylating bacteria. More recently, Lambertsson and Nilsson (2006[6]) have also implicated the presence of organic material (OM) as a factor controlling methylation in estuarine systems, and their work led them to conclude that "the amount of OM

[2] Section 3.1.2.1, fifth bullet.
[3] Schaefer, J.K., Yagi, J., Reinfelder, J.R., Cardona, T., Ellickson, K.M., Tel-Or, S., Barkay, T. 2004. Role of the bacterial organomercury lyase (MerB) in controlling methylmercury accumulation in mercury-contaminated natural waters. *Environ. Sci. Technol.* 38(16): 4304-4311.
[4] Jackson, T.A., 1986. Methyl mercury levels in a polluted prairie river-lake system: seasonal and site-specific variations, and the dominant influence of trophic conditions. *Can. J. Fish. Aquat. Sci.* 43: 1873-1887.
[5] Hammerschmidt, C.R. and Fitzgerald, W.F. 2004. Geochemical controls on the production and distribution of methylmercury in near-shore marine sediments. *Environ. Sci. Technol.* 38(5): 1487-1495.
[6] Lambertsson, L. and Nilsson, M. 2006. Organic material: the primary control on mercury methylation and ambient methyl mercury concentrations in estuarine sediments. *Environ. Sci. Technol.* 40(6): 1822-1829.

accumulated at the bottoms was the main factor affecting net MeHg production, while the total amount of Hg had little or no influence on the amount of MeHg in the sediment." Other research indicates that iron-reducing bacteria may be as important as, or more important than, sulfate-reducing bacteria in the mercury methylation process (Fleming et al. 2006).[7] A great deal of innovative work is currently underway (e.g., the "METAALICUS" project[8]) and these relationships may be better understood in the future.

For the reasons discussed above, BAFs expressed as methylmercury in tissue to total mercury in water are simply not supportable. BAFs must be methylmercury in tissue to methylmercury in water, and even then will require site specific data. As an example of how methylmercury in water can be used to predict the concentration of total mercury in fish, U.S.G.S. biologists developed a regression model that, after evaluating all variables measured in studies of mercury in various watersheds across the U.S., produced "best fit" (highest R^2 value) equation for predicting fish tissue mercury. The regression model included the following variables: methylmercury levels in water, % wetland of the water body, water body pH, and acid-volatile sulfide (Brumbaugh et al. 2001)[9]. The single best predictor of fish tissue concentration (best 1-variable model) was methylmercury in water.

In the meantime, however, EPA should recognize in the draft guidance that (a) today, it is not possible in all cases to quantify relationships between total and methylmercury to a degree sufficient to support economically responsible environmental management, and that (b) it is likely that some sources of total mercury will have no impact on methylmercury levels in local fish tissue.

4. EPA Needs to be Consistent in its Discussion of Various Models.

EPA's draft guidance document discusses steady state models, dynamic models and spatially detailed models, but is inconsistent in how it discusses when these models may be used. For instance, on pp. 74-76), EPA explains that different types of models fit different situations. For example, when the factors affecting methylation of mercury vary seasonally or around an average but stay the same from year to year, the appropriate type of model is the dynamic model. Another type of model is a BAF, which assumes a "constant proportionality." Where there are seasonal changes in loadings, in phytoplankton concentrations or abundance, or in many other factors, constant proportionality is not attained, so use of this type of steady-state model would not be appropriate. The third type of model is the sediment-based model, where "a simplified steady state approach cannot simulate changes in mercury concentrations in fish tissue due to external load reductions." This third model type does not use a bioaccumulation factor.

However, earlier in the Draft Guidance, in § 3.1.3.1 (pp. 16-25), EPA allows for regulatory actions based on bioaccumulation factors, but does not appear to allow for sediment-based models. Also, EPA allows only for steady-state bioaccumulation factors. This is indicated by the following EPA statement: "Regardless of the type of model used, states' … methodologies should be consistent with the *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* … (section 5.6: National Bioaccumulation Factors for Inorganic and Organometallic chemicals: USEPA 2000e) and *Technical Support Document Volume 2: Derivation of National*

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[7] Fleming, E.J., Mack, E.E., Green, P.G. and Nelson, D.C. (2006). Methylation from Unexpected Sources: Molybdate-Inhibited Freshwater Sediments and Iron-Reducing Bacterium. Appl. Environ. Microbiol. Mercury 72(1): 457-464.

[8] see http://www.biology.ualberta.ca/metaalicus/metaalicus.htm.

[9] Brumbaugh, W.G., D.P. Krabbenhoft, D.R, Helsel, J.G. Wiener, and K. R. Echols. 2001. A National Pilot Study of Mercury Contamination of Aquatic Ecosystems Along Multiple Gradients: Bioaccumulation in Fish. Biological Science Report USGS/BRD/BSR-2001-009. U.S. Geological Survey, Columbus, Missouri. Accessible at http://www.cerc.usgs.gov/pubs/center/pdfDocs/BSR2001-0009.pdf

Bioaccumulation Factors (USEPA 2003b)." Draft Guidance at p. 20. The technical documents cited by EPA do not allow dynamic BAFs or allow sediment-based or other similar models that are not predicated on BAF's (either steady state BAF's or dynamic BAF's).

BAFs to estimate the propensity of mercury to bioaccumulate in waterbodies, though simple to calculate, have scientific flaws (Reash, R.J. 2002. An Evaluation of USEPA's Bioaccumulation Factor for Mercury: A Regulated Industry Perspective. Abstract provided in U.S. EPA and U.S.G.S – Proceedings and Summary Report of the Workshop on the Fate, Transport, and Transformation of Mercury in Aquatic and Terrestrial Environments. EPA/625/R-02/005). Brumbaugh et al. (2001) noted a curious finding that, for some watershed land-use categories, calculated BAF values for largemouth bass were: 1) low when measured mercury levels in fish were high, and 2) low when methylmercury concentrations in water were high. In theory, BAF's should increase as the bioaccumulative propensity of mercury (from water to fish tissue) increases. The low solubility of inorganic mercury, variable and site-specific partitioning of mercury species, and extended times necessary to reach equilibrium and steady states are problematic for using a BAF approach to determine confident estimates of the propensity to bioaccumulate. Therefore, EPA needs to allow use of alternative models, and the Draft Guidance should state a consistent approach as to when those models can or should be used.

B. ASSESSMENT AND LISTING ISSUES

1. We Support EPA's Recommendation for Use of Trophic Level-Weighted Averages in Measuring Fish Tissue Levels. Data from One or a Few Species Should Not Lead to Listing When That Average Does Not Exceed the Criterion.

We support EPA's recommendation in Section 4.3 (Draft Guidance at p. 50) that States use a trophic level weighting approach to compute an average methylmercury concentration in fish tissue for comparison with the methylmercury criterion. In the related discussion (Section 4.3.4), EPA should clarify that fish consumption advisories for one, or even a few species having geometric mean concentrations above 0.3 mg/kg, may not be an adequate basis for 303(d) listing absent corresponding local fish consumption data suggesting a risk level in excess of that embodied in the criterion.

Section 4.3.2 of the Draft Guidance describes an approach for calculating weighted average fish tissue values for each trophic level and then applying local or default fish consumption distributions to compute the average methylmercury concentration in fish tissue for a stream (C_{avg} on p. 51). We support this approach, because it is a more comprehensive assessment of fish tissue concentrations and exposure when compared to some other procedures used by states. For example, some states, including Idaho and Oregon, have included streams on their 303(d) lists as impaired for mercury when average tissue concentrations for just one or a few species of fish have exceeded the criterion. This approach does not imbed any analysis suggesting that fish consumption patterns (local or default) present a risk in excess of that embodied in the criterion. The problems with that policy are suggested by experience in states that have shifted to a more sound approach. For example, in Georgia, the Savannah River was originally included on the 303(d) list as impaired for mercury. Once a full assessment was completed, the state decided to delist that water body as impaired for mercury.

It is possible, and perhaps likely, that some state impairment listings represent a degree of confusion concerning EPA's general interpretation that fish consumption advisories demonstrate impairment of CWA section 101(a) "fishable" uses[10]. As EPA is aware, the basis used by State environmental or health agencies to support fish consumption advisories varies widely between

[10] As described in the October 24, 2000 guidance memo (referenced as USEPA 2000g) and discussed in Section 4.3.4 of the draft guidance.

States and is rarely, if ever, developed solely on the basis of a corresponding water quality criterion. Rather, such advisories are often formulated to guide potential consumers, or subsets of potential consumers (e.g., pregnant women), against the consumption of excess amounts of certain species. For this and other reasons, it is often difficult or impossible to contrast the potential risks associated with the State issued fish consumption advisory with the risks embodied in the methylmercury criterion as is suggested by EPA in the October 2000 guidance and the draft guidance[11].

The Draft Guidance would be enhanced if EPA were to provide a more forthright discussion of these difficulties and a recommendation that a trophic level weighted average concentration, when used in conjunction with local or default fish consumption patterns, is the preferred basis for comparison against the criterion. EPA should further note that the co-occurrence of fish consumption advisories for one or a small number of fish species for consumers (or subsets of consumers) is not, by itself, justification for listing under CWA section 303(d).

2. We Support the Concept that Fish Data Older than 5 Years Should Not Be Used for Listing Decisions Unless the State Considers Reliability and Consistency with QA/QC Requirements.

In the Draft Guidance, EPA discusses the important concept of data age, noting that if fish tissue data are more than 5 years old, the State should consider reliability and consistency with quality assurance/quality control requirements before using those data in listing decisions. Draft Guidance at p. 53. We commend EPA for stressing those important scientific concepts. Our experience has been that much of the data that has been used for 303(d) decisions in the past has not met basic data quality requirements, and this is particularly true of data that was collected years ago. Since fish tissue data are not routinely collected from every waterbody every year, data age and quality are particular concerns, and they need to be considered carefully before using older data in regulatory decisions.

3. We Support the General Policy that Listing based on a Fish Advisory is Not Required Unless Data are Specific to that Waterbody, but EPA Should Not Give States Discretion to List based on Data from Other Waterbodies.

In the Draft Guidance, EPA restates its existing policy concerning use of fish advisories for 303(d) listing purposes - that a listing may not be required unless the fish tissue data are specific to the waterbody being evaluated for listing. Draft Guidance at p. 53. We support that principle. Since listing a waterbody as impaired can carry substantial consequences, a listing should not happen unless the State has actual data showing that that particular waterbody is impaired - extrapolation from "similar" waterbodies is fraught with uncertainty, and violates basic concepts of fairness and due process. We are concerned, though, with EPA's statement (also on p. 53) that even though a listing is not required based on data from other waterbodies, the State has the discretion to issue such a listing anyway. This is tantamount to saying that even if the data supporting a listing, for whatever reason, are not adequate from a scientific perspective, the State can list the waterbody anyway, "just to be safe." That concept has no support in the statute, EPA's regulations, or basic principles of our legal structure. A waterbody either is or is not impaired. Data from other waterbodies cannot legally be used as the basis for a listing when there is no specific evidence that the waterbody being evaluated is actually impaired. EPA cannot give the States the discretion to take an action that is not legally authorized.

4. EPA Should Clarify How States Should Use Data Below Detection Levels.

The guidance document should provide a more complete discussion of acceptable options, including an expanded list of references, for the treatment of nondetects in data analyses that are

[11] There are other concerns with States using fish consumption advisories as the basis for impairment listings, such as, for example, the lack of public notice and an opportunity to comment on potential advisories.

likely to be relevant to the assessment and management of compliance with the methylmercury water quality criterion.

Recent literature has emphasized the importance of proper treatment of nondetects in the analysis of left-censored water quality data (see Helsel 2005a[12] and 2005b[13], for example). Simple substitution of nondetect values with some fraction of the analytical detection limit (e.g. 0, ½, etc.) can bias data analysis results.[14] EPA recognizes this possibility in Section 4.3.1 of the Draft Guidance in the context of determining attainment with the methylmercury water quality criterion. The Draft Guidance says (at pp. 49-50) that methods other than substitution may be used, and some specific alternatives are presented by reference to a 2001 EPA study (EPA 2001[15]).

We find the existing discussion of nondetects (Draft Guidance at pp. 49-50) to be very limited, however, and believe that it should be expanded to include other method references and other relevant analyses that may require careful consideration of nondetects. Fish tissue data may contain relatively few nondetects; however, nondetects will be much more common for methylmercury analyses made in receiving waters, stormwaters, and wastewaters. In section 7, which addresses NPDES implementation and reasonable potential calculations, the 1991 Technical Support Document for Water Quality-based Toxics Control (EPA 1991[16]) is the only reference given for guidance on calculation methods. This document does not describe the range of readily available approaches currently used to analyze environmental data. Proper treatment of nondetects may also be important in determining site-specific methylmercury BAFs used to translate fish tissue methylmercury concentrations to water column methylmercury concentrations (see section 3.1.3.1) and to studies of the ratio of methylmercury to total mercury in receiving waters and effluent used in determining waste loads (see Appendix A). A more thorough discussion of sources and application of methods for the analysis of left-censored data will help users of this document avoid bias resulting from inappropriate treatment of nondetects.

5. The Guidance Should be Made Consistent in How Fish Tissue Levels Should Be Determined.

The Draft Guidance is inconsistent in how it recommends determining the level of methylmercury in fish tissue for a waterbody. On page 21, EPA states that the geometric mean of methylmercury levels in tissue over several trophic levels should be used for developing national BAFs. [2] However, on page 45, EPA recommends using only Trophic Level 4 as a "conservative"

[12] Helsel, D.R. 2005a. Nondetects and data analysis: statistics for censored environmental data. John Wiley & Sons, Inc. 250 pp.

[13] Helsel, D.R. 2005b. More than obvious: better methods for interpreting nondetect data. Environ. Sci. Technol. 39: 419A-423A.

[14] Therefore, if this method is used, the fraction of the analytical detection limit substituted should be dependent on the distribution characteristics of the data and the assumptions on which the detection limit is based. Currie, L.A. Applied Radiation and Isotopes 61 (2004) 145-149.

[15] USEPA (U.S. Environmental Protection Agency). 2001. Robust Estimation of Mean and Variance Using Environmental Data Sets with Below Detection Limit Observations. U.S. Environmental Protection Agency, Office of Research and Development, Las Vegas, NV.

[16] USEPA (U.S. Environmental Protection Agency). 1991. Technical Support Document for Water Quality-based Toxics Control. EPA 505/2-90-001. U.S. Environmental Protection Agency, Office of Water Enforcement and Permits and Office of Water Regulations and Standards.

[14] Page 21 of the draft guidance says that "EPA believes the geometric mean BAFs are the best available central tendency estimates of the magnitude of BAFs nationally, understanding that the environmental and biological conditions of the waters of the United States are highly variable."

approach because more mercury has been bioaccumulated in Level 4. Then, on page 51, EPA refers to using the geometric mean of a single trophic level, Level 3. Consistent with Section B.1. of these comments, we believe that fish tissue data should be assessed across trophic levels, and that EPA should therefore recommend that States calculate the geometric mean over several trophic levels instead of using data from just one level.

C. PERMITTING ISSUES

1. We Support Use of PMPs Instead of Numeric Limits.

It appears that under the permitting structure in the Draft Guidance, the preferred mechanism for addressing point source discharges (where action by those sources is warranted) is through implementation of pollutant minimization programs (PMPs), rather than through stringent water quality-based effluent limits (WQBELs) at part-per-trillion levels. Draft Guidance at pp. 90, 94-96. We strongly support this choice. As EPA recognizes, the loadings from most point source discharges of mercury are very small, particularly in comparison to loadings from other sources, and stringent WQBELs would accomplish little or nothing to improve water quality. Moreover, any such limits would be set at levels that are near the detection limits of the current analytical methods, in a range where the analytical variability is significant.[17] Further, the ability of control methods to comply with these limits on a consistent basis is questionable at best. In contrast, implementation of PMPs allows the sources, and the regulating agencies, to focus instead on taking real, practical steps to minimize these mercury discharges, in an iterative process, without posing any significant impacts to water quality or to mercury levels in fish tissue.

2. EPA Should Revise its Assumption that Every Detectable Mercury Discharge Has "Reasonable Potential."

EPA recommends in the Draft Guidance that if a State chooses to directly implement a fish tissue criterion, without translating it to a water column level, the State could find that a discharge has "reasonable potential," and therefore impose control requirements in that discharger's permit, if the fish tissue in the relevant waterbody exceeds the criterion and the discharger has quantifiable levels of mercury in its effluent. Draft Guidance at p. 86. We strongly disagree with this blanket assumption that if fish tissue levels exceed the criterion, every single discharger of mercury (which likely means most dischargers, since our experience has been that mercury is present in quantifiable levels in most water discharges, if for no other reason than that it is present in most intake waters) needs to be subjected to control requirements in order for the waterbody to eventually attain the criterion. EPA does not impose such a requirement for other pollutants. Instead, State permitting authorities are given a significant amount of discretion in determining whether sources are significant enough to merit imposition of permit limits. The States should be given that same discretion in implementing the mercury fish tissue criterion.

3. The Guidance Should Clarify How States Decide if Sources Are "Significant."

In § 7.5.2, EPA recommends establishing different types of WQBELs depending on whether the discharge is a "significant" source of mercury. Section 7.5.2.1 explains that for a discharge to be considered "insignificant," the loading of the point source (or cumulative loading of all point sources) to the receiving water are expected to account for a small or negligible component of the current total mercury loadings and that, upon implementation of the permit's mercury minimization program

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[17] Because of these analytical challenges, EPA's focus should properly be on whether mercury levels can be reliably quantified, rather than whether they are detected. Accordingly, EPA should clarify that only effluents with "quantifiable" levels of mercury (i.e., levels that can be reliably quantified) should be subject to monitoring requirements, minimization requirements, or numeric limits.

requirements, any further reductions from the point source(s) would result in no discernable improvement in water quality. Draft Guidance at p. 93.

We believe EPA should specify a more precise criterion for "insignificant." We suggest that if an individual discharger is responsible for less than 1% of the mercury loading to the waterbody, once credits for mercury in the intake water are counted, then it should be considered "insignificant."

We disagree with the suggestion that if the "cumulative" loading of all point sources is significant, then each and every one of the point sources is itself significant. There may be cases in which nine dischargers to a waterbody contribute 99% of the "significant" contribution. If a tenth discharger contributes only 1%, it should not be considered "significant." This situation underscores the need for EPA to work with stakeholders to define a reasonable approach, which distinguishes those sources needing more active management (and likely reductions) from those sources for whom that type of approach is not needed or not appropriate.

4. EPA Should Not Impose a Blanket Requirement for "Status Quo" Permit Limits Based on Current Discharge Levels.

For insignificant sources of mercury (and for significant sources that do not "use" mercury or accept wastewaters containing mercury), EPA provides that in addition to PMP requirements, the States should also impose a numeric mass limit at existing effluent quality (or an existing limit, if more stringent). Draft Guidance at pp. 94, 96. We have several concerns about this "existing effluent quality cap." First, we do not see how this requirement can be justified under section 301(b)(1)(C) of the CWA, which requires limitations "as necessary to attain water quality standards." If these sources are not significant, then it is not necessary to cap them at their existing levels in order to attain standards; they could be allowed to increase by some amount without endangering standards attainment in any way. In addition, we are concerned that this "cap" would impose a severe burden on those facilities that seek to expand their discharges to accommodate economic growth or needed operational changes in order to survive in today's marketplace. Since all wastewaters contain some level of mercury, any increase in discharge flow will increase the mass discharge of mercury. Since the "cap" would prohibit such increases, it would prevent those dischargers from making the needed changes, even though these dischargers are insignificant and the increases in their discharges would make no appreciable difference in water quality. EPA needs to provide flexibility in the requirements so as to accommodate these small increases.[18]

5. EPA Should Clarify the Requirements for Source that "Use" Mercury.

For significant dischargers that "use" mercury in their processes, EPA prescribes stringent control requirements, including numeric water quality-based mass loading limits. Draft Guidance at p. 96. However, it is not clear that the term "use" means in this context. Since many raw materials for industrial processes contain small amounts of mercury, an interpretation of "use" that covers these miniscule mercury levels in raw materials would subject many dischargers to those stringent WQBELs, even though they never intentionally purchase mercury, and even though mercury plays no deliberate role in manufacture of their products. To prevent this result, EPA should clarify that to "use" mercury in this context means to "intentionally use mercury as an additive or processing aid or intentionally use a process additive that contains mercury as an active ingredient. 'Use' does not mean to use a processing aid or additive that contains mercury as a contaminant."

6. EPA Should Clarify the Requirements for Sources that Accept Wastewaters Containing Mercury.

[18] In addition, EPA should clarify that any "status quo" limits that are imposed should take into account normal variations in effluent loading, based on a valid statistical analysis.

EPA also requires stringent WQBELs for significant dischargers that accept wastewaters containing mercury. Draft Guidance at p 96. As with the "use" of mercury, we are unclear what EPA means by this "accept" term. This is a particular concern for municipal sewage treatment plants (publicly owned treatment works, or POTWs), since given the ubiquity of mercury in the environment, all wastestreams sent to POTWs, including from residences, will contain some level of mercury. A literal application of EPA's "accept wastewaters containing mercury" category would mean that all POTWs would fall into that category. That result simply makes no sense; it would subject municipal discharges to onerous treatment requirements simply for accepting the wastewaters that they are designed and built to accept. It would make more sense to apply these requirements only to POTWs (and other facilities) that accept wastewaters from sources that "use" mercury – as "use" is defined in Section C.6. of these comments.[19]

7. EPA Needs to Provide Appropriate Flexibility for Permitting of New and Increased Discharges Containing Low Mercury Levels.

The Draft Guidance is vague as to the conditions under which States can issue permits allowing increased or new discharges of mercury. For example, the draft states that new sources and new dischargers with quantifiable mercury levels must meet the requirements of 40 CFR 122.4(i) and antidegradation policy, but there is no explanation of what that means, other than that one possible way to meet these tests may be to demonstrate that other source reductions will offset the new or increased discharge. Draft Guidance at p. 99. At another place in the document (p. 102), EPA states that where fish tissue data exceed the criterion, these sources would be subject to limits based on a TMDL, a "TMDL-like analysis," or an offset. Given that virtually all of these sources will be extremely small contributors of mercury loadings (and, in many cases, contributing no more than was already present in their supply water), we do not believe that these new or increased discharges should be subject to extremely stringent limits, and certainly should not be prohibited altogether simply because there is not another source nearby from which one can obtain an offsetting reduction. Keeping in mind that the primary focus should be attainment of standards, EPA should enunciate a flexible policy that allows these discharges, subject to reasonable control requirements, as long as issuing those permits does not have a significant impact on standards attainment. For example, one can readily envision a situation in which a discharger seeks a small increase, or a new discharge that has low mercury levels, while that same watershed will, over the next few years, experience much larger reductions in mercury levels due to controls on other sources, including national emission control requirements for air sources. In such a situation, the watershed will continue making progress toward the standard, and the small source should be allowed to discharge, within reasonable limits.

8. The Guidance Should Not Require Mercury Monitoring for All Sources.

The Draft Guidance requires that all dischargers perform some amount of effluent monitoring for mercury, even if the fish tissue levels in the waterbody are below the criterion and even if the mercury levels in that effluent are not significant. Draft Guidance at pp. 86-88, 94-96. We do not believe that this broad requirement is necessary or appropriate. Monitoring for mercury using Method 1631 (and "clean hands" sample collection techniques) is expensive and time-consuming. Moreover, collection of data from every source, no matter how small, cannot help but divert resources and attention from those sources that truly need to be controlled in order for water quality to attain standards. For every other pollutant, EPA has allowed State permitting agencies to exercise some discretion in determining when effluent monitoring for particular pollutants is necessary, based on factors such as the amount of the discharge flow, the nature of the discharging facility, and the characteristics of the receiving waterbody. States should have that same discretion in making permitting decisions for sources of mercury.

9. The Guidance Should Not Require Dischargers to Perform Fish Tissue Surveys.

[19] It may be that the source that "uses" mercury is subject to pretreatment standards that address the issue. In that case, the POTW should not necessarily be subject to additional requirements.

In situations where the fish tissue levels in a waterbody are not yet known, EPA recommends that States require dischargers to conduct fish tissue surveys. Draft Guidance at p. 89. We are concerned that imposition of such a requirement is inappropriate, because it imposes an obligation on regulated parties to do the work of the agencies. In short, this requirement shifts the responsibility for conducting 305(b) assessments from the regulatory agency to the regulated community. It is certainly true that in some cases, dischargers may choose to cooperate with agencies to collect fish tissue data, especially since it may be in their interest to do so. However, that should not be required. Moreover, it is not clear that States, or even EPA under Section 308, would have legal authority to impose such a requirement. It is one thing to require dischargers to submit information that has already been generated; it is quite another to require them to go out in the field and affirmatively generate new information. We would suggest that instead of imposing this mandate, EPA instead encourage States to work with their stakeholders in cooperative ventures to determine fish tissue levels in their waterbodies.

10. We Support Allowing States to Provide Intake Credits, but EPA Should Allow Additional Flexibility in that Provision.

In the Draft Guidance, EPA indicates that States can use the "intake credit" mechanism to address discharges whose mercury levels are due totally or primarily to the mercury present in their intake water. Draft Guidance at p. 103. We strongly support EPA's validation of this important regulatory tool. As EPA is aware, many industrial facilities use large amounts of water for cooling purposes. In addition, many facilities take in large flows for use in their processes and operations. These flows will inevitably contain small concentrations of mercury, due to mercury's ubiquity in the environment. To impose permit limits that require the dischargers to treat and remove those mercury levels would be onerous, unfair, and legally unauthorized, given the focus of CWA Section 402 on "addition" of pollutants, which is not taking place in this situation. We also support EPA's explanation that intake credits would be available in cases where the cooling process results in small increases in concentration in the discharge, due to evaporation and/or water loss. That increase, after all, does not reflect any change in the mass loading of mercury. EPA should, however, provide additional flexibility in the intake credits provisions of the Draft Guidance, in at least one particular respect: to the extent that dischargers are required to qualify for use of the credits provision by periodic measurements of influents and effluents, we are concerned that analytical variability could lead to a source losing its credits even though it is not actually adding any pollutants to the effluent loading. EPA needs to inform the States that in these circumstances, analytical variability must be taken into account. Also, EPA should allow for other ways for dischargers to show that they are not "adding" pollutants from their operations, so that their State agencies can continue using the credits provision in determining appropriate permit requirements.[20]

11. EPA Should Not Encourage States to Require Antidegradation Review for Every Increased Mercury Discharge.

In addressing the application of antidegradation requirements to increased discharges, EPA encourages States to regard any increase in mercury used in a discharger's process or in wastewater accepted by the discharger as a "significant lowering of water quality," requiring a Tier 2 antidegradation review before the increase can be allowed. Draft Guidance at p. 101. We have several concerns about this recommendation. First, it infringes on an area that EPA has always left to

[20] In addition, EPA should provide additional flexibility in its policy regarding adjustment of "intake credits" to reflect removal of intake pollutants in the facility's water treatment systems. Pollutant levels that were present in intake water should not be required to be removed. To the extent that removal of intake pollutants is considered in establishing effluent limits, the permitting agency should carefully consider the feasibility of establishing these limits, given that this removal may be highly variable and difficult to measure. These concepts are reflected in the "intake credits" provisions of the Agency's Great Lakes Initiative rule, at 40 CFR 132, Appendix F, Procedure 5..E.3.b.

State discretion: the details of how they implement their antidegradation policies. EPA has always made it clear that States are free to use "trigger levels," which provide that increases below those levels are insignificant and do not merit use of the antidegradation review process. The only part of the Federal rules that applies a different concept is the Great Lakes Initiative (GLI), which does not provide a trigger level for mercury or other bioaccumulative compounds. However, the GLI rules were issued under Section 118 of the CWA, which gives the Agency additional authority that it does not otherwise possess. Everywhere else, States are free to use trigger levels in their antidegradation programs, and this concept should continue to apply to mercury.

12. We Support EPA's Encouraging States to Adopt Multiple-Discharger Variances.

EPA encourages the States to consider using multiple-discharger variances when a group of dischargers are in the same area or watershed and the circumstances for issuing variances are the same. Draft Guidance at p. 34. We support that recommendation. FWQC members have been very involved in the development of these variances in several States, including Ohio, Indiana, Michigan and Wisconsin. We believe that this is a highly efficient and cost-effective way to address compliance problems that affect large numbers of dischargers, while ensuring that progress continues to be made toward eventual attainment of the standards.

CONCLUSION

As stated earlier, the Coalition appreciates the opportunity to submit these comments. We support many key elements of the Draft Guidance, and we believe that with the changes suggested here, final guidance can be issued that would be extremely helpful to the state agencies that issue permits, develop TMDLs and take other actions related to mercury under the CWA, as well as to the stakeholders that are affected by those actions. We look forward to continuing to work with the Agency as it finalizes this guidance and takes other mercury-related actions under its CWA authorities. Please feel free to contact us if you have any questions regarding the issues discussed in these comments.

Sincerely,

Fredric P. Andes
Coordinator